

RESUMES

MARTIN B. FEENEY
Hydrogeologist

Education

B.S., Earth Science (Geology), University of California, Santa Cruz, 1976

Secondary Teaching Credential (Physical Science), University of California, Santa Barbara, 1979

Graduate Program, Water Science, University of California, Davis, 1981-82

M.A., Environmental Planning (Ground Water), California State University, Northridge, 1987

State Registrations and Professional Society Certification

Certified Ground Water Professional, National Ground Water Association, 1994 (473)

Registered Geologist, California, 1989 (4634)

Certified Engineering Geologist, California, 1989 (1454)

Certified Hydrogeologist, 1995 (145)

Registered Environmental Assessor, California, 1988 (812)

Summary of Experience

Mr. Feeney has been involved in complex ground-water supply, well design, aquifer storage and recovery and recharge management issues for 15 years.

Experience

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| 1996-present | Supervising Hydrogeologist, Balance Hydrologics, Inc.

Directs ground water basin management, ground water supply, and recharge augmentation programs conducted by Balance. Leads most assessments of brackish water resources and surface/ground water interaction. Participates in assessment and monitoring of treated effluent at diverse sites. Provides design criteria for water intakes in beach sands or other severe environments. |
| 1992-1996 | Supervising Hydrogeologist, Principal-in-Charge, Monterey Branch Office, Fugro West, Inc.

Experience includes hydrogeologic analysis of ground water basins; injection wells/artificial recharge programs; development of ground water flow and transport models; development of saline ground water source for desalination plants; underground storage tank site assessment and remediation. |
| 1985-1992 | Senior Hydrogeologist/Vice President, Staal, Gardner & Dunne, Inc. (SGD)

A founding principal of the firm in 1985. Participated in ground water resource evaluations, development of ground water models, municipal water well feasibility studies, design and construction management; evaluation of hazardous waste sites and underground storage tanks, water quality assessments; landfill siting studies. Co-founded Monterey office in 1987. In 1992, SGD became a member of the Fugro group of companies. |

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1983-1985 Staff Geologist, Geotechnical Consultants, Inc.

Performed geotechnical investigations for major engineering works, including dams, oil processing facilities, pipelines, and water reclamation facilities. Supervised water well drilling and completion and participated in hydrogeologic investigations including water availability, contaminant assessment and remediation, and ground water modeling.

1979-1980 Field Geologist, M.I.T. Department of Earth and Planetary Science

1977-1978 Petroleum Well-Site Geologist, Borst & Giddens, Inc.

Professional Affiliations

American Water Resources Association
Association of Ground Water Scientists and Engineers
Groundwater Resources Association of California
National Water Supply Improvement Association

Partial List of Representative Projects

Ground Water Resources

Hydrogeologic Study, North Monterey County
Basin Management Plan, Salinas Valley, Monterey County
Ground Water Basin Management Plan, Santa Rosa Basin, Ventura County
Hydrogeologic Update, Fort Ord Military Reservation, Monterey County
Hydrogeologic Assessment, Airox Mine, Orcutt, Santa Barbara County
Hydrogeologic Assessment, Rancho San Juan, Monterey County
Water Supply Availability Investigation, Laguna Seca Subarea, Monterey County
Hydrogeologic Investigation, Seaside Coastal Ground Water Basin, Monterey County
Environmental Assessment, Carpinteria Water Allocation Study, Santa Barbara County
Water Supply Availability Investigation, El Toro Subarea, Monterey County
Hydrogeologic Investigation, Carmel River Aquifer-Coastal Portion, Monterey County
Hydrogeologic Update, Seaside Coastal Ground Water Basin, Monterey County
Sea Water Intrusion Delineation Study, Salinas Valley
Sea Water Intake Feasibility Study, Marina Coast Water District, Monterey County
Brackish Aquifers Feasibility-of-Use Study, City of Santa Cruz

Artificial Recharge/Injection Well Projects

Arroyo Seco Artificial Recharge Study, Salinas Valley
Brine Disposal Wells, Marina Coast Water District, Monterey County
San Tomas Injection Well Project, Santa Clara Valley Water District
Carmel River/Seaside Aquifer Seasonal Storage Project, Monterey Peninsula Water Management District, Monterey County

Water Well Projects

Anzar High School Well, San Juan Bautista
Castroville Seawater Intrusion Project—Supplemental Wells
Emergency Water Wells Project, Oxnard, Ventura County
Well Interference Study, EXXON, Corral/Las Flores Canyon, Santa Barbara County
Rehabilitation of Well Nos. 17 and 19, Oxnard, Ventura County
Sea Water Intrusion Abatement Project Wells, Oxnard Plain, Ventura County

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Hydrogeologist

Water Well Projects (continued)

Well Nos. 3A and 4A, City of Ventura, Ventura County
High School Well, Carpinteria Water District, Santa Barbara County
Production Well Program, City of Santa Barbara
Rehabilitation of Well Nos. 1 and 2, City of Greenfield, Monterey County
Water Well Field Assessment Program, Channel Islands Beach, Ventura County
Paralta Test Well, California-American Water Company, Seaside, Monterey County
Laguna Seca Park Well, Monterey County
Royal Oaks Park Well, Monterey County
Water Well Design and Construction Supervision, Sultan of Brunei, Brunei, S.E. Asia

BARRY HECHT
Principal Hydrogeologist

Education

- BS Geology (Honors), University of California, Santa Cruz, 1970
- AB Geography and Regional Planning (Honors), University of California, Santa Cruz, 1970
- MA Geography, University of California, Berkeley, 1972
- PhD Cand. Geography, University of California, Berkeley, 1975

State Registrations and Professional Society Certifications

Registered Geologist: California (3664)
 Alaska (232)
 Oregon (1262)

Certified Engineering Geologist: California(1245)
 Oregon (E1262)

Certified Hydrogeologist: California (50)

Registered Environmental Assessor: California (22)

Certified Ground Water Professional 235, National Ground Water Association

Certified Professional Geologist 7786, American Institute of Professional Geologists

Summary of Experience

Mr. Hecht has directed specialized investigations of complex hydrogeologic, water-quality, water-rights and recharge-management issues for more than 20 years.

Experience

1988-Present Principal, Balance Hydrologics, Inc.

Directs and conducts investigations of hydrology, hydrogeology, ground-water recharge, water quality, sedimentation and sediment quality, with particular attention to surface/ground water interaction. Leads field and simulative investigations of recharge rates and quality. Directs studies of shallow percolate volumes and quality beneath agricultural and river-corridor areas, often involving combined use of simulations and ionic or isotopic tracers. Responsible for overall technical direction and integration of the firm.

1982-1988 Chief Hydrologist and Geologist, Kleinfelder

Responsible for all investigations of hydrogeologic and geologic investigations, firm-wide. Directed studies of sediment transport and water quality conditions as they affected streams and wetland habitats for federal, state and local agencies. Supervised studies and analyses of ground water movement or quality at both the site and regional scale. Directly managed firm-wide alluvial hydrology program, providing integrated analysis of surface and ground waters in alluvial systems. Led firm's pesticide migration group, including managing remedial investigations

BARRY HECHT
Principal Hydrogeologist

- 1977-1982 (RI/FS) at a pesticide-formulator Superfund site, plus major leachability studies at golf courses, cut flowers and truck crop sites.
H. Esmaili & Associates, Inc., Principal Hydrogeologist.
- Responsible for hydrogeologic, geomorphic, and geologic investigations at HEA. Developed ground-water management plans for basins in California, Idaho, Oregon and Washington. Assessed and simulated effects of applying treated municipal and industrial effluent at sites throughout California, Oregon and Washington. Directed nutrient management and water-quality monitoring programs in many western states. Led radionuclide and hazardous waste migration studies in most western states.
- HEA merged into Kleinfelder, August 1982
- 1975-1977 Doctoral studies at U.C. Berkeley, Woodrow Wilson Fellow
- Primary research in alluvial hydrology and geomorphology. As part of graduate program, served as scientific assistant at the USGS Bedload Research Project near Pinedale, Wyoming. Worked with USFS personnel at Idaho Panhandle National Forest in field surveys of channel geometry and sediment transport rates; developed related 2000-step computer code.
- 1973-1975 University of California, Santa Cruz. Lecturer in Environmental Studies and director of student field program. Taught courses in geomorphology, field methods, hydrology, and watershed management. Field instruction programs were carried out for 150 students with a three-member staff team.
- 1972-1973 University of California, Santa Cruz and Ahtna, Inc., Copper Center, Alaska. Led a three-member technical team dealing with land selection and other immediate problems related to the Alaska Native Claims Settlement Act and the trans-Alaska pipeline impact in the area.
- 1969-1972 Geography and Environmental Studies Office, University of California, Santa Cruz. Employed intermittently while assisting in development of departmental field program, including three terms as a graduate field instructor.
- 1968-1970 Santa Cruz County Planning Department, California. Assistant Planner. Compiled geologic and hydrologic data, coordinated aquifer management, drafted a quarry ordinance, and worked in zoning administration and enforcement.
- Other**
- 1972-1975 Member, then chairman, Santa Cruz County Watershed Commission
- 1982-1992 Member, Upper Sacramento River Salmon and Steelhead Advisory Committee, California Department of Fish and Game (Governor's at-large appointee).
- 1973-Present Instructor, University of California Extension (intermittent)

BARRY HECHT
Principal Hydrogeologist

1983-1989 Instructor, San Francisco State University Extension (intermittent)

Professional Affiliations

Association of Ground Water Scientists and Engineers/National Ground Water Association
Groundwater Resources Association of California
American Geophysical Union
American Institute of Professional Geologists
American Water Resources Association
Association of State Flood-Plain Managers
Floodplain Management Association of California

Expert Testimony

EPA Administrative Law Hearings
U.S.D.A. Forest Service
State of California, Water Resources Control Board
State of California, Coastal Commission
County of Santa Clara, California
County of Santa Cruz, California
County of Trinity, California
City of Santa Barbara
Montecito Water District
Marin Municipal Water District
Joint Federal/State Land Use Planning Commission (Alaska)
State of Alaska, Department of Natural Resources
City of Santa Barbara
Marin Municipal Water District
Montecito Water District
Association of Village Council Presidents, Bethel, AK
Cenaliurrit Coastal Zone Management District, Southwest Alaska
Civil Litigation (Miscellaneous)

Publications

"Sequential changes in physical conditions affecting aquatic habitat in the upper Carmel River, California, following the Marble-Cone Fire of August 1977." *Proceedings of the California Riparian Symposium*, September 1981. University of California Press. pp. 134-142.

"Deformation along a postulated branch of the Hayward Fault, Berkeley: Faulting or landsliding?" *Proceedings of the Conference on Earthquake Hazards in the Eastern San Francisco Bay Area*. California Division of Mines and Geology Special Publication No. 62, March 1982. pp. 217-226 (with D. Hoexter, C. Levine, and G. Collier).

"Appropriate uses of sediment source tracing in habitat assessments of mountain streams." *Proceedings of the American Fishery Society's Assessment of Impacts of Hydropower Development Conference*, May 1985. Denver, CO. pp. 416-422.

"Sedimentology and recharge of a Sierran glacial valley aquifer." *Proceedings of the International Mountain Watershed Symposium*, June 1988. Lake Tahoe, CA (with G. Jett).

BARRY HECHT
Principal Hydrogeologist

"Streamflow, nitrate, and sediment budgets for Squaw Valley, California." Proceedings of the International Mountain Watershed Symposium, June 1988. Lake Tahoe, CA (with M. Woyshner).

"Vernal pool relationships in the eastern Central Valley, California." Proceedings of Chico Vernal Pool Conference, American Association for the Advancement of Science and the Botanical Society of America, July 1989. Chico, CA. CSU Chico, Studies from the Herbarium No. 8, pp. 49-60 (with W.T. Hanes, L.P. Stromberg).

"Natural restoration of normal bed conditions for steelhead spawning and rearing after a major storm: Corralitos and Brown Creeks, Santa Cruz County, California." Proceedings of the Ninth Annual California Salmon, Steelhead and Trout Restoration Conference, February, 22-24, 1991. Santa Cruz, CA. pp. 24-26.

"Diversity as opportunity: Bed-habitat conditions in pools and riffles downstream from channel confluences." Proceedings American Fisheries Society 26th Annual Conference, February 7-9, 1991. South San Francisco, CA. pp. 20-1.

"Response of riparian-zone shallow ground water to water-level changes in streams tributary to Mono Lake." Program with Abstracts, History of Water Symposium, UC White Mountain Research Center, September 1991. Bishop, CA. pp. 34-35 (with A. Finnerty, I. Flaschka, M. Napolitano).

"Sediment quality of tailings ponds — Considerations for reclamation planning." Proceedings of Ninth Annual Dredging and Placer Mining Conference. Reno, NV. 19 pp.

"Creep and downslope movements in the Hayward fault zone in North Berkeley: Ten years later." Proceedings of the 1992 Conference on Earthquake Hazard, Eastern San Francisco Bay Area, California Division of Mines and Geology Special Report 113, pp. 121-129 (with D.F. Hoexter, K. Knudsen, D.M. Laduzinsky and G. Fiedler).

"South of the spotted owl - Restoration strategies for episodic channels and riparian corridors in central California." Proceedings of the Society of Wetlands Scientists, Western Wetlands Conference, March 25-27, 1993. Davis, CA. pp. 104-117.

"Area-wide wastewater management for the San Lorenzo River watershed, California." Proceedings of the Seventh National symposium on Individual and Small Community Sewage Systems. American Society of Agricultural Engineers Dec. 11-12, 1994, Atlanta, GA. 10 pp. (in press, with J. Ricker, N. Hantsche, and H. Kolb).

"Potential effectiveness of shallow leachfields in reducing nitrogen loadings to ground and surface waters from deep trench leachfield in areas of sandy soils." Presentation to the California Environmental Health Association, 1996 Annual Convention. Oakland, CA (with C. White, J. Ricker, and P. Gill).

"Sources of nitrogen at low flow in the San Lorenzo River, California, and costs of alternatives for its control." In prep for submittal to *Ground Water* (with C. White and J. Ricker).

GARY KITTLESON
Hydrologist

Education

B.A. (honors), Anthropology and Environmental Studies, Boston University, 1987.

M.S. (by thesis), Natural Resource Management and Administration, Antioch/New England Graduate School, 1991.

Summary of Experience

Mr. Kittleson has been performing focused hydrologic assessments related to wetlands, riparian habitats, and land use planning since 1987. His responsibilities have included wetland delineation, hydrogeologic investigations, hydrologic or geomorphic aspects of riparian inventories, and spawning gravel surveys. He has worked effectively at the site, stream, and basin-wide scales. In addition, Mr. Kittleson has experience with many different ways of applying hydrologic data to site design review, Geographic Information Systems, and public policy development.

Experience

1995 - present Hydrologist, Balance Hydrologics, Inc.

Directs feasibility investigations of the compatibility between agricultural uses and water-quality goals and/or specific hydrologic requirements in sensitive habitat areas. Participates in basin planning and stakeholder meetings, with emphasis on hydrologic aspects of riparian-area management and water rights. Assists in geomorphic and channel-stability restoration efforts. Supports stream gaging, well-monitoring and other hydrographic functions performed by Balance.

1992-1995 Basin Management Planner, Monterey County Water Resources Agency, Salinas, CA

Performed hydrologic analyses, wetland and riparian habitat assessments, steelhead surveys, land use studies, and water demand projections for the Salinas River Basin Management Plan. Additional responsibilities included supervising graphic design and production, ArcInfo GIS mapping, and publishing Agency's quarterly newsletter. Completed initial studies, CEQA applications, U.S. Army Corps of Engineers Section 404 permits, and California Department of Fish and Game Streambed Alteration Permits. In addition, conducted public meetings and coordinated the Enhanced Groundwater Recharge Demonstration Project.

1990-1991 Assistant Planner, City of Watsonville, CA

Responsibilities included architectural and landscape design review, processing of land use permits, CEQA compliance, wetland protection, water-quality planning and public information. Completed Master's thesis on city wetland resources, entitled, "Watsonville's Freshwater Wetland Resources: Planning for Conservation in an Urban Context."

1989 Environmental Planning Technician, Dubois and King, Inc., Randolph, VT

Primary activities included the preparation of EIS's, 404 permits, and Vermont Act 250 Applications. Historical and archaeological impacts, wetland mapping, and social/economic impacts were areas of concentration.

GARY KITTLESON
Hydrologist

- 1988 Manager, St. Albans Bay Town Park, St. Albans, VT
- Responsible for all elements of public open space management, including naturalist interpretation, community relations, seasonal staffing, park revenues, public dock management, and buildings and grounds maintenance.
- 1987-1988 Assistant Environmental Analyst, Massachusetts Metropolitan District Commission - Reservations and Historic Sites Unit, Boston, MA
- Responsible for environmental protection of land under stewardship of the MDC. This included cleanup of illegal dumping activities, delineation of wetlands, creation of a computer database for site/issue tracking, computer maps and graphics, and a Wetlands Protection Handbook for MDC staff.
- 1987 Research Coordinator, Quincy Quarries Historic Site, Massachusetts Metropolitan District Commission - Reservations and Historic Sites Unit, Boston, MA
- Primarily responsibilities were historic and naturalist interpretation, creation of a computer database, photography, public relations, and trailwork.

Professional Affiliations

Society for Ecological Restoration
Association of Environmental Professionals
Association of Ground Water Scientists and Engineers

Reports

Salinas River Basin Management Plan Task 2.06: Water Quality Assessment. Prepared in conjunction with Dr. U. Win, L. Howard, and M. Zidar of Monterey County Water Resources Agency, 1994.

Wetland and Surface Water Quality Impacts — Salinas Basin Management Plan Alternatives Analysis. February 1994.

The Enhanced Groundwater Recharge Demonstration Project, Salinas River Near Gonzales. Prepared for the Monterey County Water Resources Agency, 1994. (Discussion Draft)

Municipal and Industrial Water Demand Projections for the Salinas River Basin: The Application of MWD-MAIN. Monterey County Water Resources Agency. Prepared in conjunction with Dr. U. Win, G. MeAmber, and L. Howard of Monterey County Water Resources Agency, 1993.

Publications

Water Demand Modeling and Public Participation in the Salinas River Basin, California. Oral Paper presented at American Water Resources Association Summer Symposium, Jackson, Wyoming. June 1994.

Watsonville's Freshwater Wetland Resources: Planning for Conservation in an Urban Context. 1991. 45 pp. plus tables, figures, and appendices.

Wetlands Protection Handbook for MDC Staff. Prepared for Commonwealth of Massachusetts, Metropolitan District Commission — Reservations and Historic Sites Unit. 1987. 24 pp. plus tables, figures, and appendices.

BALANCE HYDROLOGICS, Inc.
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Effective October 1, 1996

PROFESSIONAL FEE SCHEDULE, 1996-1997

Professional Staff*	<u>Hourly Rate</u>
Assistant Professional	\$62
Staff Professional	\$72
Senior Staff Professional	\$80
Project Professional	\$90
Senior Professional	\$100
Principal	\$120
Support Staff	
Technical Typist	\$42
Technical Editor	\$50
Senior Project Administrator	\$54
Drafter or CADD Operator	\$42
Hydrologic Technician	\$44
Senior Technician	\$52
Data or CADD Manager	\$52

**Includes environmental scientists and engineers practicing in hydrology, geology, soil and watershed sciences, and civil and erosion-control engineering.*

- o Mileage will be charged at \$0.37/mile (2WD) and \$0.45/mile (4WD).
- o Nominal use charges are applied for certain field and analytical instruments and for protective gear; fees vary with the nature, duration, and frequency of use. Daily-use schedule available on request.
- o A fee of \$20/hour is in effect for technical computers used directly in analysis, programming or simulation; no charges are applied for data entry or word processing. Variable fees of up to \$25/hour may be incurred for CADD or GIS computer services. On-line search computer services are charged at cost plus 15%, plus \$25/hour.
- o Per diem rates vary between \$78 and \$99 per day, depending upon local costs; actual costs are used as the basis for food and lodging charges in certain urban areas, Alaska, and selected other locations.
- o Project-related expenses will be billed at cost plus 15 percent.
- o Rather than charge separately for communications (phone, mobile phones, fax) routine copying, and routine deliveries, we add 4 percent to labor costs.
- o Certain surcharges and minimums apply to courtroom or hearing testimony and to particulars available upon request.